This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

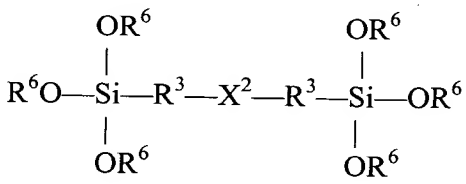
Claim 1 (Previously presented): A method of treating a metal surface, comprising the steps of:

(a) providing a metal surface, said metal surface chosen from the group consisting of:

- a metal surface having a zinc-containing coating;
- zinc; and
- zinc alloy;

and

(b) applying a silane solution to said metal surface, said silane solution having at least one vinyl silane and at least one bis-silyl aminosilane, wherein said at least one vinyl silane and said at least one bis-silyl aminosilane have been at least partially hydrolyzed, and wherein the bis-silyl aminosilane comprises:



wherein:

-each R^6 is individually chosen from the group consisting of: hydrogen and C_1-C_{24} alkyl;

- each R^3 is individually chosen from the group consisting of: substituted aliphatic groups, unsubstituted aliphatic groups, substituted aromatic groups, and unsubstituted aromatic groups; and

-X^2 is either:

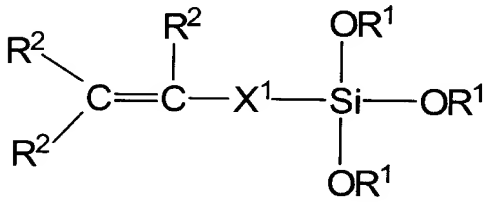
-wherein each R^4 is hydrogen; and

-R^5 is chosen from the groups consisting of: substituted and unsubstituted aliphatic groups, and substituted and unsubstituted aromatic groups; and

wherein the ratio (by volume) of the total concentration of vinyl silanes to the total concentration of bis-silyl aminosilanes in said silane solution is at least about 1.

Claim 2 (Original): The method of claim 1, wherein said vinyl silane has a trisubstituted silyl group, and wherein the substituents are individually chosen from the group consisting of hydroxy, alkoxy, aryloxy and acyloxy.

Claim 3 (Original): The method of claim 2, wherein said vinyl silane comprises:



wherein:
-each R^1 is individually chosen from the group consisting of: hydrogen, C_1 - C_{24} alkyl and C_2 - C_{24} acyl;
-X^1 is chosen from the group consisting of: a C-Si bond, substituted aliphatic groups, unsubstituted aliphatic groups, substituted aromatic groups, and unsubstituted aromatic groups; and
-each R^2 is individually chosen from the group consisting of: hydrogen, C_1 - C_6 alkyl, C_1 - C_6 alkyl substituted with at least one amino group, C_1 - C_6 alkenyl, C_1 - C_6 alkenyl substituted with at least one amino group, arylene, and alkylarylene.

Claim 4 (Original): The method of claim 3, wherein each R^1 is individually chosen from the group consisting of: hydrogen, ethyl, methyl, propyl, iso-propyl, butyl, iso-butyl, sec-butyl, ter-butyl and acetyl.

Claim 5 (Original): The method of claim 3, wherein X^1 is chosen from the group consisting of: a C-Si bond, C_1 - C_6 alkylene, C_1 - C_6 alkenylene, C_1 - C_6 alkylene substituted with at least one amino group, C_1 - C_6 alkenylene substituted with at least one amino group, arylene, and alkylarylene.

Claim 6 (Original): The method of claim 3, wherein each R^2 is individually chosen from the group consisting of: hydrogen, ethyl, methyl, propyl, iso-propyl, butyl, iso-butyl, sec-butyl, ter-butyl and acetyl.

Claims 7-8 (Cancelled).

Claim 9 (Previously presented): The method of claim 1, wherein each R^6 is individually chosen from the group consisting of: hydrogen, ethyl, methyl, propyl, iso-propyl, butyl, iso-butyl, sec-butyl and ter-butyl.

Claim 10 (Previously presented): The method of claim 1, wherein R^3 is individually chosen from the group consisting of: C_1 - C_{10} alkylene, C_1 - C_{10} alkenylene, arylene, and alkylaryene.

Claim 11 (Cancelled).

Claim 12 (Previously presented): The method of claim 1, wherein R^5 is chosen from the group consisting of: C_1-C_{10} alkylene, C_1-C_{10} alkenylene, arylene, and alkylarylene.

Claim 13 (Previously presented): The method of claim 1, wherein said bis-silyl aminosilane is chosen from the group consisting of: *bis*-(trimethoxysilylpropyl)amine, *bis*-(triethoxysilylpropyl)amine, and *bis*-(trimethoxysilylpropyl)ethylene diamine.

Claim 14 (Original): The method of claim 1, wherein said vinyl silane is chosen from the group consisting of: vinyltrimethoxysilane, vinyltriethoxysilane, vinyltripropoxysilane, vinyltriisopropoxysilane, vinyltributoxysilane, vinyltriisobutoxysilane, vinylacetoxysilane, vinyltriisobutoxysilane, vinylbutyltrimethoxysilane, vinylmethyltrimethoxysilane, vinylethylltrimethoxysilane, vinylpropyltrimethoxysilane, vinylbutyltriethoxysilane, and vinylpropyltriethoxysilane.

Claim 15 (Cancelled).

Claim 16 (Original): The method of claim 1, further comprising the steps of drying said metal surface after said silane solution has been applied thereto, and thereafter coating said metal surface with a polymer selected from the group consisting of: paints, adhesives and rubbers.

Claim 17 (Original): The method of claim 1, wherein said metal surface comprises hot-dipped galvanized steel.

Claims 18-38 (Cancelled).

Claim 39 (Previously presented): The method of claim 1, wherein the ratio (by volume) of the total concentration of vinyl silanes to the total concentration of bis-silyl aminosilanes in said silane solution is at least about 4.

Claim 40 (Previously presented): The method of claim 1, wherein the ratio (by volume) of the total concentration of vinyl silanes to the total concentration of bis-silyl aminosilanes in said silane solution is at least about 9.